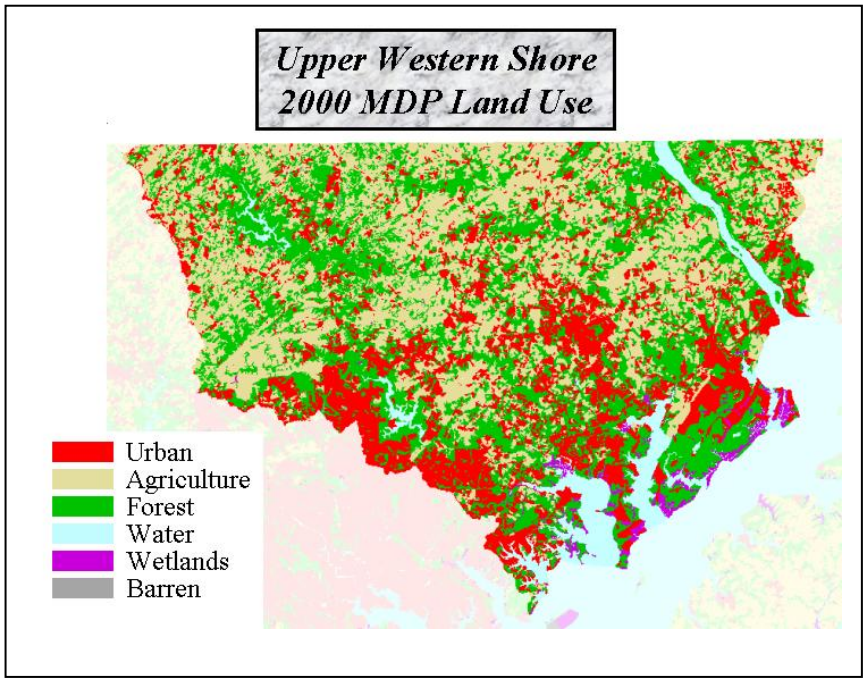
Upper Western Shore Basin Summary

Executive Summary
1985-2003 data, February 2005

The Upper Western Shore Basin is largely agricultural and forested lands (38 percent each). Reductions in loadings are relatively small and no significant change in water quality parameters from 1985 to 2003 can be seen, with two exceptions. Algal abundance has decreased (improved) in the tidal Gunpowder and Middle Rivers. Water quality is generally good, except in the Bush River, where algal levels are high (poor) and water clarity is relatively fair

LOADINGS (based on watershed model)

Modeled nitrogen, phosphorus, and sediment loadings have decrease somewhat. Agricultural runoff is the dominant source, followed by point sources and urban runoff.



- Total nitrogen loadings have decreased somewhat (18 percent) from 1985 to 2002 (down from 5.3 to 4.4 million pounds.
- Total phosphorus has been cut 30 percent from 1985 to 2002 (down from 0.4 to 0.28 million pounds).
- Sediment loadings have declined only about 16 percent from 1985 to 2002 (down from 127,000 tons to 107,000 tons).

LONG-TERM TIDAL WATER QUALITY (based on monitoring concentration data)

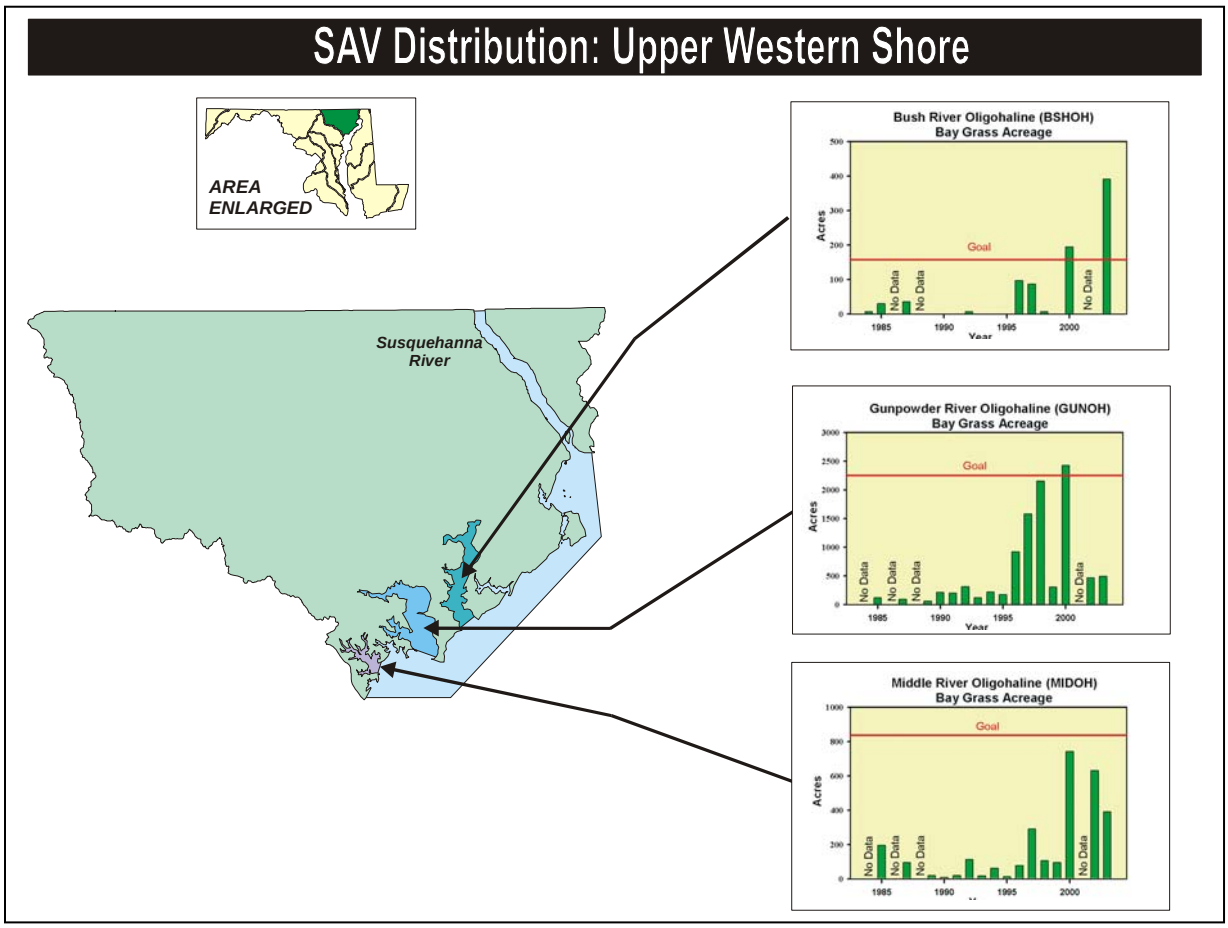
Most stations show no trends in water quality parameters. Exceptions include improving trends in algae levels in Gunpowder and Middle Rivers.

- Water quality at the tidal stations in the Upper Western Shore basin is relatively good compared to the 1985 to 1990 baseline period for most stations. The only exceptions in the tidal areas are the Bush River, where algal levels are poor and water clarity is relatively fair, and the Middle River, where, despite decreases in algal levels, they are not yet good.
- Continuous monitoring data are available for 2003 and 2004 at Otter Point Creek and Lauderick Creek on the Bush River, Mariner's Point Park and Aberdeen Proving Grounds on the Gunpowder River, and Strawberry Point and Cutter Marine on Middle River. See www.eyesonthebay.net.

- Spatially-intensive water quality mapping was conducted in 2003 and 2004 in the tidal areas of the Bush, Gunpowder, and Middle River. See www.eyesonthebay.net.

BIOLOGICAL and ECOSYSTEM MONITORING

Bay grasses generally improved from the early 1990s levels beginning around 1995. Benthic communities are only moderately degraded.



- The Bush River currently exceeds its bay grass goal. The Gunpowder and Middle Rivers did well in 2000, but acreages have declined since then.
- Benthic community condition in the Upper Western Shore tributaries is only moderately degraded.
- There is not consistently one limiting factor at the Bush, Gunpowder, and Middle River stations during spring and summer. During fall, the stations are largely phosphorus limited.

For more detailed information see the complete basin summary at:
http://www.dnr.state.md.us/bay/tribstrat/basin_summaries.html.